



SEQUENCE LISTING

<110> Robert E. Klem

<120> METHODS AND COMPOSITIONS FOR TREATING A
CELL-PROLIFERATIVE DISORDER USING CRE DECOY OLIGOMERS, BCL-2
ANTISENSE OLIGOMERS, AND HYBRID OLIGOMERS THEREOF

<130> 10412-022-999

<140> 10/053,645

<141> 2002-01-22

<150> 60/263,244

<151> 2001-01-22

<160> 43

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<213> Artificial sequence

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Oligionucleotide

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<223> Description of artificial sequence: Synthetic Antisense
Oligionucleotide

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35

<210> 3

<211> 20

<212> DNA

<213> Artificial sequence

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<223> Description of artificial sequence: Synthetic Antisense
Oligionucleotide

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gatgcaccta cccagcctcc

20

<210> 4

<211> 33

<212> DNA

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<220>
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 Oligionucleotide

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 Oligionucleotide

<400> 5
 acaaaggcat cctgcagttg 20

<210> 6
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 Oligionucleotide

<400> 6
 cccccaactg caggatgcct ttgtggaact gtacgg 36

<210> 7
 <211> 20
 <212> DNA
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<220>
 <223> Description of artificial sequence: Synthetic Antisense
 Oligionucleotide

<400> 7
 ggggaaggatg gcgcacgctg 20

<210> 8
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 <212> DNA
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 Oligionucleotide

<400> 8
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<210> 9
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Oligionucleotide

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taccgcgtgc gaccctc 17

<210> 10
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Oligionucleotide

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tcctaccgcg tgcgacc 17

<210> 11
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Oligionucleotide

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ccttcctacc gcgtgcg 17

<210> 12
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Oligionucleotide

<400> 12
gacccttcct accgcgt 17

<210> 13
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<223> Description of artificial sequence: Synthetic Antisense
Oligionucleotide

<400> 13
ggagaccctt cctaccg 17

<210> 14
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<223> Description of artificial sequence: Synthetic Antisense
Oligionucleotide

<400> 14
 gcggcggcag cgcgg 15

 <210> 15
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 <223> Description of artificial sequence: Synthetic Antisense
 Oligionucleotide

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 cgcggggacg acgga 15

 <210> 16
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 Oligionucleotide

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 cgggagcgcg gcgggc 16

 <210> 17
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 Oligionucleotide

 <400> 17
 tctcccagcg tgcgcat 18

 <210> 18
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 Oligionucleotide

 <400> 18
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 <210> 19
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 Oligionucleotide

 <400> 19
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ccttattgtt aaaaacatgt tagaagcaat gaatgtatat aaaagc

106

<210> 20

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<213> Homo Sapiens

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<222> (1)...(717)

<400> 20

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| atg gcg cac gct ggg aga acg ggg tac gac aac cgg gag ata gtg atg | 48 |
| Met Ala His Ala Gly Arg Thr Gly Tyr Asp Asn Arg Glu Ile Val Met | |
| 1 5 10 15 | |
| aag tac atc cat tat aag ctg tcg cag agg ggc tac gag tgg gat gcg | 96 |
| Lys Tyr Ile His Tyr Lys Leu Ser Gln Arg Gly Tyr Glu Trp Asp Ala | |
| 20 25 30 | |
| gga gat gtg ggc gcc gcg ccc ccg ggg gcc gcc ccc gca ccg ggc atc | 144 |
| Gly Asp Val Gly Ala Ala Pro Pro Gly Ala Ala Pro Ala Pro Gly Ile | |
| 35 40 45 | |
| ttc tcc tcc cag ccc ggg cac acg ccc cat cca gcc gca tcc cgc gac | 192 |
| Phe Ser Ser Gln Pro Gly His Thr Pro His Pro Ala Ala Ser Arg Asp | |
| 50 55 60 | |
| ccg gtc gcc agg acc tcg ccg ctg cag acc ccg gct gcc ccc ggc gcc | 240 |
| Pro Val Ala Arg Thr Ser Pro Leu Gln Thr Pro Ala Ala Pro Gly Ala | |
| 65 70 75 80 | |
| gcc gcg ggg cct gcg ctc agc ccg gtg cca cct gtg gtc cac ctg gcc | 288 |
| Ala Ala Gly Pro Ala Leu Ser Pro Val Pro Pro Val Val His Leu Ala | |
| 85 90 95 | |
| ctc cgc caa gcc ggc gac gac ttc tcc cgc cgc tac cgc ggc gac ttc | 336 |
| Leu Arg Gln Ala Gly Asp Asp Phe Ser Arg Arg Tyr Arg Gly Asp Phe | |
| 100 105 110 | |
| gcc gag atg tcc agc cag ctg cac ctg acg ccc ttc acc gcg cgg gga | 384 |
| Ala Glu Met Ser Ser Gln Leu His Leu Thr Pro Phe Thr Ala Arg Gly | |
| 115 120 125 | |
| cgc ttt gcc acg gtg gtg gag gag ctc ttc agg gac ggg gtg aac tgg | 432 |
| Arg Phe Ala Thr Val Val Glu Glu Leu Phe Arg Asp Gly Val Asn Trp | |
| 130 135 140 | |
| ggg agg att gtg gcc ttc ttt gag ttc ggt ggg gtc atg tgt gtg gag | 480 |
| Gly Arg Ile Val Ala Phe Phe Glu Phe Gly Gly Val Met Cys Val Glu | |
| 145 150 155 160 | |
| agc gtc aac cgg gag atg tcg ccc ctg gtg gac aac atc gcc ctg tgg | 528 |
| Ser Val Asn Arg Glu Met Ser Pro Leu Val Asp Asn Ile Ala Leu Trp | |
| 165 170 175 | |
| atg act gag tac ctg aac cgg cac ctg cac acc tgg atc cag gat aac | 576 |
| Met Thr Glu Tyr Leu Asn Arg His Leu His Thr Trp Ile Gln Asp Asn | |
| 180 185 190 | |

| | |
|---|-----|
| gga ggc tgg gat gcc ttt gtg gaa ctg tac ggc ccc agc atg cgg cct | 624 |
| Gly Gly Trp Asp Ala Phe Val Glu Leu Tyr Gly Pro Ser Met Arg Pro | |
| 195 200 205 | |
| | |
| ctg ttt gat ttc tcc tgg ctg tct ctg aag act ctg ctc agt ttg gcc | 672 |
| Leu Phe Asp Phe Ser Trp Leu Ser Leu Lys Thr Leu Leu Ser Leu Ala | |
| 210 215 220 | |
| | |
| ctg gtg gga gct tgc atc acc ctg ggt gcc tat ctg agc cac aag | 717 |
| Leu Val Gly Ala Cys Ile Thr Leu Gly Ala Tyr Leu Ser His Lys | |
| 225 230 235 | |

<210> 21
 <211> 239
 <212> PRT
 <213> Homo Sapiens

<400> 21

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | His | Ala | Gly | Arg | Thr | Gly | Tyr | Asp | Asn | Arg | Glu | Ile | Val | Met |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Tyr | Ile | His | Tyr | Lys | Leu | Ser | Gln | Arg | Gly | Tyr | Glu | Trp | Asp | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Asp | Val | Gly | Ala | Ala | Pro | Pro | Gly | Ala | Ala | Pro | Ala | Pro | Gly | Ile |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Phe | Ser | Ser | Gln | Pro | Gly | His | Thr | Pro | His | Pro | Ala | Ala | Ser | Arg | Asp |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Pro | Val | Ala | Arg | Thr | Ser | Pro | Leu | Gln | Thr | Pro | Ala | Ala | Pro | Gly | Ala |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 |
| Ala | Ala | Gly | Pro | Ala | Leu | Ser | Pro | Val | Pro | Pro | Val | Val | His | Leu | Ala |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Leu | Arg | Gln | Ala | Gly | Asp | Asp | Phe | Ser | Arg | Arg | Tyr | Arg | Gly | Asp | Phe |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Ala | Glu | Met | Ser | Ser | Gln | Leu | His | Leu | Thr | Pro | Phe | Thr | Ala | Arg | Gly |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Arg | Phe | Ala | Thr | Val | Val | Glu | Glu | Leu | Phe | Arg | Asp | Gly | Val | Asn | Trp |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Gly | Arg | Ile | Val | Ala | Phe | Phe | Glu | Phe | Gly | Gly | Val | Met | Cys | Val | Glu |
| 145 | | | | 150 | | | | | 155 | | | | | | 160 |
| Ser | Val | Asn | Arg | Glu | Met | Ser | Pro | Leu | Val | Asp | Asn | Ile | Ala | Leu | Trp |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Met | Thr | Glu | Tyr | Leu | Asn | Arg | His | Leu | His | Thr | Trp | Ile | Gln | Asp | Asn |
| | | 180 | | | | | 185 | | | | | 190 | | | |
| Gly | Gly | Trp | Asp | Ala | Phe | Val | Glu | Leu | Tyr | Gly | Pro | Ser | Met | Arg | Pro |
| | | 195 | | | | 200 | | | | | 205 | | | | |
| Leu | Phe | Asp | Phe | Ser | Trp | Leu | Ser | Leu | Lys | Thr | Leu | Leu | Ser | Leu | Ala |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Leu | Val | Gly | Ala | Cys | Ile | Thr | Leu | Gly | Ala | Tyr | Leu | Ser | His | Lys | |
| 225 | | | | | 230 | | | | | 235 | | | | | |

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Met Ala His Ala Gly Arg Thr Gly Tyr Asp Asn Arg Glu Ile Val Met
1 5 10 15

aag tac atc cat tat aag ctg tcg cag agg ggc tac gag tgg gat gcg 96
Lys Tyr Ile His Tyr Lys Leu Ser Gln Arg Gly Tyr Glu Trp Asp Ala
20 25 30

gga gat gtg ggc gcc gcg ccc ccg ggg gcc gcc ccc gca ccg ggc atc 144
Gly Asp Val Gly Ala Ala Pro Pro Gly Ala Ala Pro Ala Pro Gly Ile
35 40 45

ttc tcc tcc cag ccc ggg cac acg ccc cat cca gcc gca tcc cgc gac 192
Phe Ser Ser Gln Pro Gly His Thr Pro His Pro Ala Ala Ser Arg Asp
50 55 60

ccg gtc gcc agg acc tcg ccg ctg cag acc ccg gct gcc ccc ggc gcc 240
Pro Val Ala Arg Thr Ser Pro Leu Gln Thr Pro Ala Ala Pro Gly Ala
65 70 75 80

gcc gcg ggg cct gcg ctc agc ccg gtg cca cct gtg gtc cac ctg gcc 288
Ala Ala Gly Pro Ala Leu Ser Pro Val Pro Pro Val Val His Leu Ala
85 90 95

ctc cgc caa gcc ggc gac gac ttc tcc cgc cgc tac cgc ggc gac ttc 336
Leu Arg Gln Ala Gly Asp Asp Phe Ser Arg Arg Tyr Arg Gly Asp Phe
100 105 110

gcc gag atg tcc agc cag ctg cac ctg acg ccc ttc acc gcg cgg gga 384
Ala Glu Met Ser Ser Gln Leu His Leu Thr Pro Phe Thr Ala Arg Gly
115 120 125

cgc ttt gcc acg gtg gtg gag gag ctc ttc agg gac ggg gtg aac tgg 432
Arg Phe Ala Thr Val Val Glu Glu Leu Phe Arg Asp Gly Val Asn Trp
130 135 140

ggg agg att gtg gcc ttc ttt gag ttc ggt ggg gtc atg tgt gtg gag 480
Gly Arg Ile Val Ala Phe Phe Glu Phe Gly Gly Val Met Cys Val Glu
145 150 155 160

agc gtc aac cgg gag atg tcg ccc ctg gtg gac aac atc gcc ctg tgg 528
Ser Val Asn Arg Glu Met Ser Pro Leu Val Asp Asn Ile Ala Leu Trp
165 170 175

atg act gag tac ctg aac cgg cac ctg cac acc tgg atc cag gat aac 576
Met Thr Glu Tyr Leu Asn Arg His Leu His Thr Trp Ile Gln Asp Asn
180 185 190

gga ggc tgg gta ggt gca tct ggt gat gtg agt ctg ggc 615
Gly Gly Trp Val Gly Ala Ser Gly Asp Val Ser Leu Gly
195 200 205

<210> 23
<211> 205
<212> PRT
<213> Homo Sapiens

<400> 23
Met Ala His Ala Gly Arg Thr Gly Tyr Asp Asn Arg Glu Ile Val Met
1 5 10 15

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Lys | Tyr | Ile | His | Tyr | Lys | Leu | Ser | Gln | Arg | Gly | Tyr | Glu | Trp | Asp | Ala | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Gly | Asp | Val | Gly | Ala | Ala | Pro | Pro | Gly | Ala | Ala | Pro | Ala | Pro | Gly | Ile | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Phe | Ser | Ser | Gln | Pro | Gly | His | Thr | Pro | His | Pro | Ala | Ala | Ser | Arg | Asp | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Pro | Val | Ala | Arg | Thr | Ser | Pro | Leu | Gln | Thr | Pro | Ala | Ala | Pro | Gly | Ala | |
| | 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Ala | Ala | Gly | Pro | Ala | Leu | Ser | Pro | Val | Pro | Pro | Val | Val | His | Leu | Ala | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Leu | Arg | Gln | Ala | Gly | Asp | Asp | Phe | Ser | Arg | Arg | Tyr | Arg | Gly | Asp | Phe | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Ala | Glu | Met | Ser | Ser | Gln | Leu | His | Leu | Thr | Pro | Phe | Thr | Ala | Arg | Gly | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Arg | Phe | Ala | Thr | Val | Val | Glu | Leu | Phe | Arg | Asp | Gly | Val | Asn | Trp | | |
| | 130 | | | | | 135 | | | | 140 | | | | | | |
| Gly | Arg | Ile | Val | Ala | Phe | Phe | Glu | Phe | Gly | Gly | Val | Met | Cys | Val | Glu | |
| | 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Ser | Val | Asn | Arg | Glu | Met | Ser | Pro | Leu | Val | Asp | Asn | Ile | Ala | Leu | Trp | |
| | | | | 165 | | | | 170 | | | | | | 175 | | |
| Met | Thr | Glu | Tyr | Leu | Asn | Arg | His | Leu | His | Thr | Trp | Ile | Gln | Asp | Asn | |
| | | 180 | | | | | | 185 | | | | | 190 | | | |
| Gly | Gly | Trp | Val | Gly | Ala | Ser | Gly | Asp | Val | Ser | Leu | Gly | | | | |
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<220>
 <223> Description of artificial sequence: Synthetic Antisense
 Oligionucleotide

<400> 24
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18

<210> 25
 <211> 18
 <212> DNA
 <213> Artificial sequence

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 Oligionucleotide

<400> 25
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<210> 26
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
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 Oligionucleotide

<400> 26
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20

<210> 27
 <211> 20
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence: Synthetic Antisense
 Oligionucleotide

 <400> 27
 gggcggaggc cggccggcgg 20

 <210> 28
 <211> 20
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence: Synthetic Antisense
 Oligionucleotide

 <400> 28
 agcggcggcg gcggcagcgc 20

 <210> 29
 <211> 20
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence: Synthetic Antisense
 Oligionucleotide

 <400> 29
 gggccgggaa gggcgccgc 20

 <210> 30
 <211> 84
 <212> DNA
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 <220>
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 Oligionucleotide

 <400> 30
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 tttggctttg aaaggccgtt ttgt 84

 <210> 31
 <211> 67
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of artificial sequence: Synthetic Antisense
 Oligionucleotide

 <400> 31
 gaccgcatTT tcaaaaagct gctctgagag tagatgacgt aaataaagcc cttgtaacag 60
 tgacgta 67

<210> 32
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of artificial sequence: Synthetic Antisense
 Oligionucleotide

 <400> 32
 cccttcaccc acctagctct gtcccgcag 29

 <210> 33
 <211> 34
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of artificial sequence: Synthetic Antisense
 Oligionucleotide

 <400> 33
 tgacgtcatc tcccagcgtg cgccattgac gtca 34

 <210> 34
 <211> 52
 <212> DNA
 <213> Artificial Sequence

 <220>
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 Oligionucleotide

 <400> 34
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 <210> 35
 <211> 34
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of artificial sequence: Synthetic Antisense
 Oligionucleotide

 <400> 35
 tgacgtcatc tcccagcgtg cgccattgac gtca 34

 <210> 36
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of artificial sequence: Synthetic Antisense
 Oligionucleotide

 <400> 36
 tgacgtcatg acgtcatgac gtca 24

 <210> 37
 <211> 20

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of artificial sequence: Synthetic Antisense
 Oligionucleotide

 <400> 37
 tgacgtcatt tttgacgtca 20

 <210> 38
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 Oligionucleotide

 <400> 38
 tgacgtcatt ttgacgtca 19

 <210> 39
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 Oligionucleotide

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 tgacgtcatt tgacgtca 18

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 Oligionucleotide

 <400> 40
 tgacgtcatt gacgtca 17

 <210> 41
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 Oligionucleotide

 <400> 41
 tgacgtcatc tcccagcgtg cgccattgac gtca 34

 <210> 42
 <211> 23
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<220>
<223> Description of artificial sequence: Synthetic Antisense
Oligionucleotide

<400> 42
aggatggcgc acgctgggag aac

23

<210> 43
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<213> Artificial Sequence

<220>
<223> Description of artificial sequence: Synthetic Antisense
Oligionucleotide

<400> 43
tgacgtcatc tcccagcgtg cgccattgac gtcaacagag ggtagga

57